

Translation

PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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|--|---|---|-----------------------|
| Applicant's or agent's file reference 754-S04P0096 | FOR FURTHER ACTION | | See Form PCT/IPEA/416 |
| International application No. PCT/JP2004/000482 | International filing date (day/month/year) 21.01.2004 | Priority date (day/month/year) 21.01.2003 | |
| International Patent Classification (IPC) or national classification and IPC G02F 1/133, G09G 3/36, 3/20 | | | |
| Applicant SONY CORPORATION | | | |

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| 1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. |
| 2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. |
| 3. This report is also accompanied by ANNEXES, comprising: |
| a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>16</u> sheets, as follows: |
| <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). |
| <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. |
| b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). |
| 4. This report contains indications relating to the following items: |
| <input checked="" type="checkbox"/> Box No. I Basis of the report |
| <input type="checkbox"/> Box No. II Priority |
| <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI Certain documents cited |
| <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII Certain observations on the international application |

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|---------------------------------------|-----------------------------------|
| Date of submission of the demand | Date of completion of this report |
| Name and mailing address of the IPEA/ | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/000482

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

international search (Rule 12.3 and 23.1(b))
 publication of the international application (Rule 12.4)
 international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

the international application as originally filed/furnished
 the description:

pages 1-6, 10-15, 17 as originally filed/furnished
 pages* 7, 7/1, 8, 9, 9/1, 16, 18, 19 received by this Authority on 14.02.2005
 pages* _____ received by this Authority on _____

the claims:

nos. _____ as originally filed/furnished
 nos.* _____ as amended (together with any statement) under Article 19
 nos.* 1-8 received by this Authority on 14.02.2005
 nos.* _____ received by this Authority on _____

the drawings:

sheets 1-12 as originally filed/furnished
 sheets* _____ received by this Authority on _____
 sheets* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, nos. 9-10 _____
 the drawings, sheets/figs _____
 the sequence listing (specify): _____
 any table(s) related to sequence listing (specify): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (specify): _____
 any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/000482

| Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
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|-----------|---|

1. Statement

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|-------------------------------|-------------------|-----|
| Novelty (N) | Claims <u>1-8</u> | YES |
| | Claims _____ | NO |
| Inventive step (IS) | Claims <u>1-8</u> | YES |
| | Claims _____ | NO |
| Industrial applicability (IA) | Claims <u>1-8</u> | YES |
| | Claims _____ | NO |

2. Citations and explanations (Rule 70.7)

Document 1: JP 2001-228459 A (Minolta Co., Ltd.), 24 August 2001, entire text; all drawings

Document 2: JP 11-44873 A (Toshiba Corp.), 16 February 1999, entire text; all drawings

Document 3: JP 2000-2869 A (Minolta Co., Ltd.), 7 January 2000, entire text; all drawings

Document 4: JP 2002-365608 A (Fuji Xerox Co., Ltd.), 18 December 2002, entire text; all drawings

Claims 1-8

The inventions set forth in claims 1-8 involve an inventive step in relation to the documents cited in the international search report and the documents cited in the written opinion.

None of documents 1-4 disclose the feature wherein, "when cholesteric liquid crystal is in a planar state, a row driver reference voltage switching means is controlled to make the first reference voltage the first voltage, thereafter the column driver reference voltage switching means is controlled to make the second reference voltage the second voltage, in addition the row drivers and the column drivers are controlled so that the

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International application No.

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Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

first reference voltage is applied to the row electrodes and the second reference voltage is applied to the column electrodes; and wherein, in order to give a desired portion of the cholesteric liquid crystal a focal-conical texture, the row driver reference voltage is controlled to switch the first reference voltage and the second reference voltage both to 0V and the row drivers and the column drivers are controlled, thereby controlling the supply of the first bipolar driving voltage and the second bipolar driving voltage to the cholesteric liquid crystal". Moreover, this feature would not be obvious to a person skilled in the art.

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claims 3 and 5 contain the wording "a second reference voltage-applying step for applying the aforementioned first reference voltage to the aforementioned row electrodes". However, this is believed to be an error and should read "a second reference voltage-applying step for applying the aforementioned second reference voltage to the aforementioned column electrodes."

Claim 6 contains the wording "the display method as set forth in claim 5", but the invention set forth in claim 5 is a "liquid crystal driving method."

Claim 7 contains the wording "a liquid crystal driving circuit as set forth in claim 6", but the invention set forth in claim 6 is "a display method".

Claim 8 contains the wording "a liquid crystal driving method as set forth in claim 7", but the invention set forth in claim 7 is "a liquid crystal driving circuit."